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ABSTRACT

This paper is concerned with evaluating the Parent Training Program component of the Parent Training Technology System. The specific problem assessed was the relative influence of academic and practicum training on developing behavior modification skills in parents who work with their own psychotic and mentally retarded children. Three parents were taught reinforcement, shaping, and stimulus control principles and their applications in an academic program, and then were "shaped" to carry out self-help, language, and social-recreational skill training procedures with their children. The main findings were that academic training influenced academic performance but had little influence on practicum performance. Practicum training was the primary factor influencing practicum performance, and seeing a movie of someone else training was not as effective as tutoring (or shaping) for developing criterion level behavior shaping performance in parents. (Author/SDH)

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THE RELATIVE EFFECTIVENESS OF ACADEMIC AND PRACTICUM TRAINING ON DEVELOPING BEHAVIOR MODIFICATION SKILLS IN PARENTS

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This paper is concerned with the Parent Training Program component of the Parent Training Technology System. The Parent Training Technology System is an operant type behavior modification system that utilizes parents as the primary training staff to teach habilitative skills to their own mentally retarded and psychotic children in their homes (Watson, Gardner and Sanders, 1971; and Watson and Bassinger, submitted for publication). The Parent Training Technology System consists of six sets of Child Treatment Programs and three supportive programs. The Child Treatment Programs are a self-help skill program, a motor coordination program, a language program, an academic program, a social-recreational program, and a program for eliminating undesirable or disruptive behavior and developing compliance behavior. The three supportive programs are a program for teaching parents how to train their children using behavior modification techniques, an evaluation program and an administrative program. All nine programs are designed to function in an integrated/coordinated manner. A latticed summary of the entire system can be found in Figure 1.

- Place Figure 1 about here -

The Parent Training Program was designed to train parents how to teach or shape adaptive behavior skills in their own children. Development of this program was based on the work of Keller (1968) and Cohen, Goldiamond, Filipczak and Pooley (1968). It utilizes a group type of instructional procedure. The curriculum is divided into units, and each unit is completed on a contingency basis. Training materials consist of a programmed text (Watson, 1973a), a book of Child Treatment Programs (Watson, 1972a), assessment instruments (Watson, 1972a), a series of slides, and three movies (Watson, 1972b, c, & d). The program was developed over a five-year period and was standardized with

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approximately 765 parents, teachers, nurses, nurses aides, university students and professional staff (40 were mothers). It was specifically designed to teach parents the necessary skills to teach their children the six sets of habilitative skills found in the book of Child Treatment Programs (Watson, 1972a), assess the effectiveness of training, and maintain their children's behavior after it is acquired.

The purpose of this study was to assess the relative effectiveness of the academic and practicum phases of the Parent Training Program on acquisition of written and spoken behavior modification skills and on actual behavior shaping skills by parents. A similar problem was investigated previously by Gardner (1972) with an earlier version of this same program. However, there were two important differences between that study and this one. In the earlier report by Gardner, attendants in a residential institution for the mentally retarded served as subjects while this study used parents as subjects. Secondly, the practicum phase of training reported in Gardner's study consisted of six hours of role playing self-help skill training among trainees without the involvement of residents. In this study, parents were shown movies and then immediately received "tutored-shaping training" with their own children. They also carried out self-help skill, language and social-recreational skill training, as opposed to only self-help skill training.

The results of this experiment should contribute information about the effectiveness of the Parent Training Program for teaching behavior modification skills to parents. It also should provide additional information of general interest about the influence of academic and practicum phases of a behavior modification training program on the acquisition of spoken/written verbal skills and actual behavior shaping skills.

METHOD

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Subjects

Subjects in this study were three parents enrolled in the Community Behavior Modification Program (Watson and Bassinger, 1971, 1972). Two were approximately 30 years of age and one was almost 60. The two younger subjects were high school graduates and the older one had complete two years of college. The two younger women were the genetic parents of the children enrolled in the program, and the older woman was a foster parent. Each had a child enrolled in the program. The children were diagnosed as either psychotic or mentally retarded.

Parent Assessment and Training

The actual parent/child intake and acceptance procedure is described in detail in Watson and Bassinger (submitted for publication). Briefly, parents were interviewed by phone upon referral to determine whether they were seeking the type of service offered by the Community Behavior Modification Program. Then a Home Training Specialist made a visit to their home to explain the program, the parents' obligations in detail and have them sign a Contingency Contract (Watson, 1972a). Their obligations, itemized in the Contingency Contract, were to complete the Parent Training Program, train their child daily, keep prescribed data, be present for weekly home visits with the Home Training Specialist, and carry out the prescribed treatment procedures worked out between the parents and the Home Training Specialist.

Assessment. Baselines were taken of parent training performance in the home in both academic and practicum areas prior to teaching them. Since a multiple-baseline experimental design (Baer, Wolf and Risley, 1968) was used, the number

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of baseline observations varied across the three parents. One academic and practicum baseline observation was made of Parent IX, four were made of Parent QX, and seven were made of Parent NC (see Figure 2). The Academic evaluation instrument consisted of a 27-item true-false--18 item fill in examination (global academic pretest) and three equivalent 9-item true-false--6-item fill in tests containing the same items found in the global academic pretest. Each of the smaller tests was constructed by taking every third true-false and fill in item from the global academic pretest. Each test had a section on reinforcement, on shaping and on stimulus control. The rationale for using the three alternate smaller tests was to reduce rehearsal effects on the test items, since this test was given repeatedly throughout baseline assessment and academic training. The larger global academic pretest was administered on the first baseline evaluation session and the smaller tests were administered sequentially thereafter, in an ABCABC order. Interobserver scorer reliability on these tests was a mean of .997 (.967-1.00). This reliability figure was obtained by having two program staff independently score all tests administered during the study.

Practicum performance was assessed by using simulated training situations. There were three situation categories: self-help, language and social-recreation. Using Parent QX as an example, on the first baseline session, she was asked to "get" her child to: 1) tie her shoes, 2) bathe, and 3) brush her teeth; 4) discriminate different sounds made by rhythm instruments (Watson, 1972a), 5) produce vowel and consonant sounds, and 6) produce specific words; 7) play a game called Texas Toss, 8) play a lotto game, and 9) play a domino game (see Watson, 1972a for a description of 7-9). The parent was asked to attempt to teach her child all nine skills on the first observation day, and then she was asked to attempt

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only one from each skill category (a total of three) each session thereafter. Thus, the larger practicum test was broken down into three smaller subtests in the same manner described for academic training. Practicum subtests also were given in the same ABCABC order previously described. Since the purpose of the baseline evaluations was to assess pretraining practicum performance, no instructions were given to the parents as to how they should train their child in each simulated situation prior to practicum training. Practicum performance was evaluated using the Training Proficiency Scale, a 40-item 5-point rating scale (Gardner, Brust and Watson, 1970; and Watson, 1972a). This instrument was designed to assess a trainer's behavior modification skill in five areas: 1) shaping behavior, 2) use of reinforcement techniques, 3) "communicating" with the client (stimulus control, prompting and fading procedures), 4) data collection, 5) and establishing "rapport" with the client and general treatment of him during the training session. The Home Training Specialist would observe the child during each simulated activity, and score the parent as she attempted to train him. Interobserver rater reliability for the TPS was .938 with a range from .824-1.00. However, only one of these scores was .824. The next lowest score was .872. Interobserver evaluations were obtained by two staff who independently observed parent training performance weekly throughout the study.

Training. Parents received both academic and practicum training weekly in their homes. Academic training consisted of three two-hour sessions. Materials used in academic training were three sections from a programmed text entitled, Child Behavior Modification: A Manual for Teachers, Nurses and Parents (Watson, 1973a) and three sets of 35mm slides of child training sequences. The three sections of the text dealt with reinforcement, shaping and stimulus control principles

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and their applications. They were each bound separately. As mentioned in the introduction, the text had been standardized on parents as well as teachers and nurses. True-false test items were located at the end of each topic or section, and fill in and essay test items were located at the end of each booklet. The test items in the reading material were the same as those used in the true-false--fill in tests. The three sets of slides also were concerned with self-help, language and social-recreational skill training and consisted of illustrations of principles and their applications. They were designed to illustrate and supplement the text material.

Materials used in practicum training were three chapters from the book of Child Treatment Programs entitled, How to Use Behavior Modification with Mentally Retarded and Autistic Children: Programs for Parents, Teachers and Nurses (Watson, 1972a). These three chapters covered teaching self-help skills, language skills and social-recreational skills. This was a "cookbook" type of manual designed to provide sufficient information for persons, who had completed the Parent Training Program and seen the training movies, to be able to effectively carry out training programs in the three areas. All programs were written in a step-by-step fashion and had been used successfully by nurses and nurses aides at Columbus State Institute, Ohio (Watson and Bassinger, 1973b). In addition, there were the three training movies designed to illustrate how to carry out self-help skill training, language training and social-recreational skill training. The self-help skill movie (Watson, 1972b) was designed to be shown first and demonstrated how a trainer gets acquainted with a child, determines his reinforcement preferences, obtains eye contact, shapes compliance behavior and teaches him self-help skills. The language movie (Watson, 1972c) was designed to follow the self-help skill movie and demonstrated how all ten phases of the language program in the book of Child Treatment Programs were

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taught. The third movie, social-recreation (Watson, 1972d), demonstrated how children were taught the games outlined in the book of Child Treatment Programs and how to get children to "relate" to one another, i.e., to look at each other, smile and laugh at one another appropriately. All materials were designed to be an integral part of the entire Parent Training Program, and the movies presumably integrated the textbook material with the material from the book of Child Treatment Programs.

At the end of the last baseline session prior to training, the parent was given the textbook chapter concerned with reinforcement. She was told it was a programmed text, and she should complete the true-false tests at the end of each topic or section and the fill in and essay tests at the end of the reading assignment. The Home Training Specialist explained that doing the tests would help her to understand the material in the reading assignment more completely. The Home Training Specialist added that during the next home visit the parent would be given a slide accompanied lecture that would illustrate and supplement the reading assignment, and the session would be concluded by giving her true-false--fill in and practicum examinations. It was pointed out that the minimal acceptable grade for each test was 90 per cent. Shaping and Stimulus Control sections of the text were deliberately withheld until the Reinforcement section of Academic Training was completed so as not to confound test results and/or the outcome of the study.

At the next home visit, the Home Training Specialist began by asking the parent if she understood the material in the text and if there were any points she wanted to discuss. If there were, these points were covered, and then a slide accompanied lecture was given. At the end of the lecture, one of the subtests used for baseline assessment of academic performance was given and

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graded. A discussion of any material in the day's lesson that had been a problem was provided after grading the test. If she made less than a 90 per cent score, she was required to review the missed material and retake the test items she had missed. The parent then received a practicum subtest, and the session ended with the parent being given the reading material on shaping behavior and told to have it read for the next home visit.

When the Home Training Specialist arrived at the next home visit, the same procedure that occurred for teaching reinforcement concepts was repeated for behavior shaping. Both academic and practicum performance were reassessed. The session concluded with the parent being assigned the stimulus control reading material, and the Home Training Specialist left. At the conclusion of the third academic training session, during which stimulus control principles and applications were taught and academic and practicum performance was assessed, the Home Training Specialist left the parent the chapter on teaching self-help skills from the book of Child Treatment Programs. She was instructed to read it for the next visit, and was told she would be shown the self-help skill movie. Only the chapter on self-help skills was left with the parent.

During the next home visit the parent was shown the movie on self-help skills. After seeing the movie, the parent was asked to model what she saw using her own child. She was given a specific self-help skill assignment, such as teaching the child to take off his shirt or pants. The Home Training Specialist rated the parent with the Training Proficiency Scale as she trained. The Home Training Specialist provided the parent with feedback obtained from the Training Proficiency Scale at the conclusion of the modelling session. After the parent

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was told of her successes and her errors, she was asked to repeat the training procedure and was urged to correct the specific deficiencies she exhibited during modelling. No one ever reached the criterion (95 per cent score on the Training Proficiency Scale) for passing the first time it was given. The Training Proficiency Scale tutoring procedure was continued until the parent met criterion. The same procedure was repeated for language skill training and for social-recreational skill training. Meeting criterion in all three practicum skill areas required a total of approximately ten hours for each parent.

Experimental Design

This experiment was designed to evaluate the relative effectiveness of academic and practicum training on academic and practicum performance. To achieve this objective, a multiple-baseline design was chosen. The design can be broken down into three general categories: baseline, academic and practicum. The baseline portion of the design was used to assess the parent's academic and practicum performance prior to training [illegible] to evaluate an sequential effects due to repeated testing. The academic phase of the design was selected to assess the influence of training in one area or topic, e.g., reinforcement, on test performance with other topics, such as shaping and stimulus control. In addition, the influence of academic training on practicum performance was also evaluated by testing both academic and practicum performance each training session.

The main function of the practicum phase of the design was to assess the influence of seeing movies on practicum performance, the influence of tutored-Training Proficiency Scale feedback on practicum performance, and the influence

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of being trained in one area, e.g., self-help, on performance in other areas, i.e., shaping and stimulus control (as well as the influence of academic training).

RESULTS AND DISCUSSION

Figure 2 summarizes the performance of the three parents under baseline, Academic Training and Practicum Training conditions. As indicated previously, academic performance was assessed using a series of true-false--fill in tests, and practicum performance was evaluated with the Training Proficiency Rating Scale. As the figure indicates, the Academic Training baseline fluctuated between 33 and 66 per cent for Parents QX and NC, but the Practicum Training baseline remained rather stable averaging 42.476 per cent for all parents. Fluctuation in the Academic Training baseline may have been a function of the test format, i.e., true-false--fill in which is rather sensitive to guessing. Also, a person who is "test wise" may deduce some answers to fill in items from the true-false items. However, these fluctuations never showed consistent upward trends. This is evidenced most clearly by Parent NC's Academic Training baseline performance.

- Place Figure 2 about here -

Upon the introduction of Academic Training, academic performance immediately increased for all parents for test scores on the topic taught that session (i.e., Reinforcement, Shaping or Stimulus Control, broken lines on graph), increasing to 100 per cent (with one exception, Parent QX on Stimulus Control) while test scores on topics not being taught that session also increased to an average of 87 per cent (solid lines on graph). However, practicum performance scores remained relatively stable throughout Academic Training.

When Practicum Training was introduced, showing parents a movie on self-help skills had a negligible influence on test scores, but when tutored-TPS feedback

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was initiated, parents quickly met the 95 per cent criterion on Self-help Skill Training. When the language movie was shown, and the parents were instructed to model what they had seen, two (IX and NC) had substantially higher Training Proficiency Scale scores than they received on the self-help skill movie while one showed only a minor score improvement. But they did not meet criterion on Language Training until they received tutored-Training Proficiency Scale feedback. This same trend recurred for the parent (QX) who received Social-recreation training.

These findings indicate that Academic Training influenced academic performance but had little influence on practicum performance. The effects of academic training in one area, e.g., reinforcement, appeared to generalize to other areas or topics, e.g., shaping and stimulus control. Practicum training was the primary factor influencing practicum performance, and seeing a movie of someone else training was not as effective as tutored-Training Proficiency Scale feedback for developing criterion level performance. In addition, the effects of practicum training in one area,e.g.,self-help skills, appeared to generalize to other areas, such as language skills. Because the multiple-baseline design does not permit determination of interaction effects, it is not clear whether (or to what extent) there was an interaction between academic training and practicum training. These results are consistent with Gardner's (1972) findings.

In addition to the data just considered, a program of this type also should be assessed with regard to its long term effectiveness. Parents who completed behavior modification training appeared to maintain their skills over an extended period of time. Some parents were in the program for as long as three years, and TPS evaluations of videotapes made of them training indicated they maintained

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relatively high levels of performance. Training Proficiency Scale evaluations were made of videotapes of all parents in the program by three independent raters, and the average score achieved by parents was 90 per cent. This compares favorably with Training Proficiency Scale ratings of all program staff during the same period (using the same evaluation format). Program staff averaged 95 per cent scores when they were assessed. The time the parents had been in the program ranged from six months to three years.

One reason parents maintained high performance levels may have been because Home Training Specialists made weekly visits to their homes, directly observed them training their children, and provided them with feedback, some in the form of contingent reinforcement, i.e., praise (e.g., "You're doing a good job", or "Good", etc.). Staff provided parents with recognition whenever they met any of four contingencies: 1) they were observed using behavior modification techniques correctly; 2) they were observed recording data correctly; 3) the data showed the child was acquiring skills being taught by the parents; and 4) direct observation indicated the child was improving, presumably as a function of the training program. Cossairt, Hall and Hopkins (1973) have shown that this type of reinforcement is effective for shaping or maintaining specific behaviors in teachers.

The data reviewed in this study suggest that this program is effective for teaching parents to carry out behavior modification training with their own children. The basis for these conclusions is the findings from the academic tests and the Training Proficiency Scale. However, another important way of determining the value of such a behavior modification program is through the effect it has on clients or students. To what extent has this program demonstrated its effectiveness as measured by client improvement? This is an area

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in which our research is just beginning, but preliminary evidence suggests the program is effective when measured using this criterion. The program, when first developed, was used to train residential hospital staff to teach self-help skills to severely and profoundly mentally retarded children (Watson & Bassinger, 1973b). The same programs used by parents to shape self-help and language skills in their children were developed in this institutional behavior modification program. During the early development of the program, 93 children were taught toileting, utensil feeding, undressing, dressing, and personal grooming skills (Watson & Bassinger, 1973a). However, no control conditions were used to determine the extent to which acquisition of self-help skills was due to factors other than resident behavior modification training.

A second source of supportive evidence comes from our Community Behavior Modification Project for Children (Watson & Bassinger, 1971, 1972). We worked with approximately 40 children over a three-year period, and parents who had completed our Parent Training Program taught their children self-help, language and social-recreational skills under the supervision of our program staff. During this period, almost all of these children were taught a variety of self-help, language and social-recreational skills (the programs used to teach these children can be found in Watson (1972a). Impressive progress was made by many of these children. Summaries of this progress can be found in movies (Watson, 1972b, c & d, 1973b) and progress reports (Watson & Bassinger, 1971, 1972). Unfortunately, these reports also lack sufficient control conditions.

A third source of evidence that includes controls which permit assessment of extra-behavior modification training factors is a recent paper by Watson & Bassinger (submitted for publication) concerning parents who were trained with this parent training program. Results of this paper suggest that parents

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effectively taught their children self-help and language skills. Further studies currently are being carried out to systematically assess the effectiveness of our self-help, language, social-recreational and academic training programs with parents enrolled in this program.

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FIGURE LEGENDS

Figure 1. Latticed summary of the Parent Training Technology System.

Figure 2. Relative performance of three parents in the academic and practicum phases of the Parent Training Program. The solid lines in T-F - fill in indicate tests on academic phases that were not taught at that time, and the broken lines indicate tests on academic phases that were taught during that session. All parents were required to meet a 90 per cent correct criterion before moving from one phase of the academic program to the next, and a 95 per cent criterion was required for moving from one phase of the practicum program to the next.

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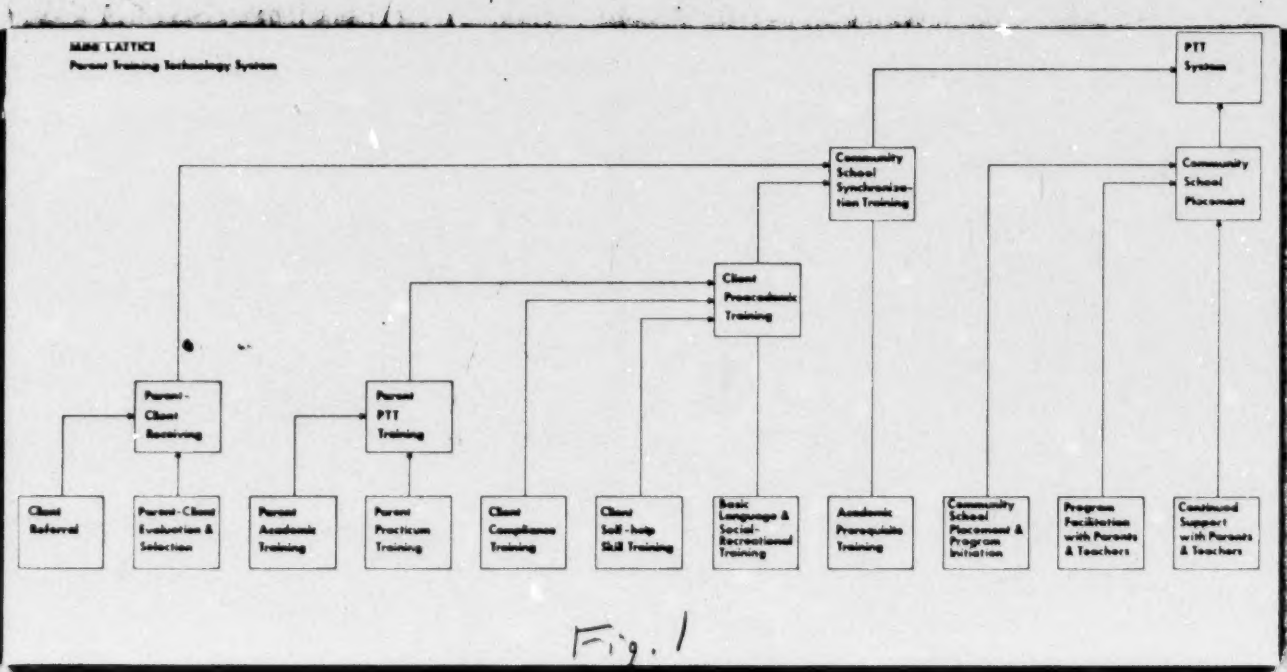
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Parent Training Technology System
PTT System
Community School Synchronization Training
Community School Placement
Client Preacademic Training
Parent - Client Receiving
Parent PTT Training
Client Referral
Parent - Client Evaluation & Selection
Parent Academic Training
Parent Practicum Training
Client Compliance Training
Client Self - help Skill Training
Basic Language & Social - Recreational Training
Academic Prerequisite Training
Community School Placement & Program Initiation
Program Facilitation with Parents & Teachers
Continued Support with Parents & Teachers

Fig. 1

SCREEN OVERLAY TO 50% BEFORE MAKING COMPOSITE NEGATIVE.

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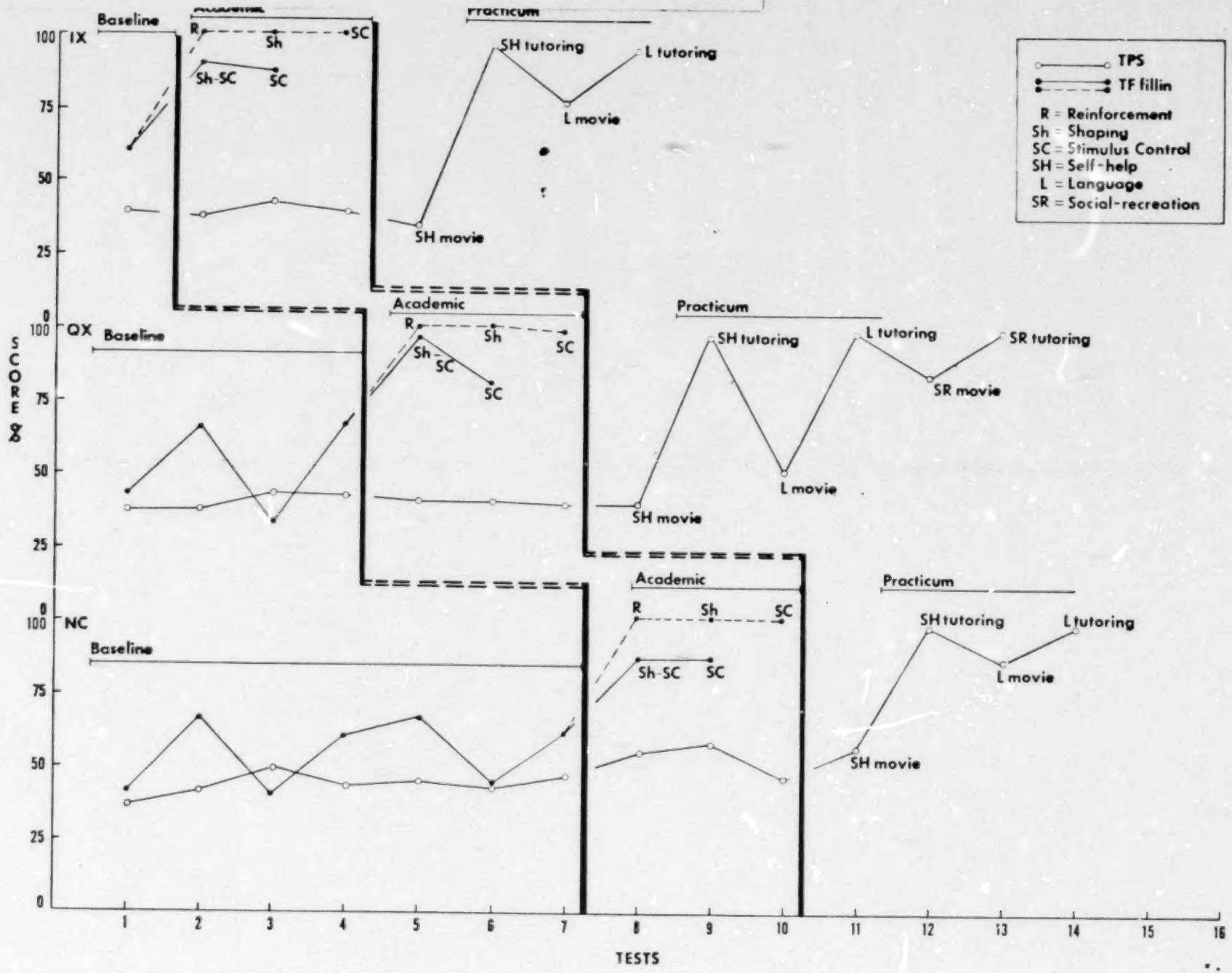

Fig. 2